REMARKS

Applicants request reconsideration, for the following reasons.

Applicants acknowledge, with appreciation, the withdrawal of finality, as stated in the first paragraph of the Action.

NEW MATTER REJECTION

Applicants respectfully disagree with the suggestion that claim 22 contains any "new matter."

Claim 22 does not recite that "a cylinder is secured to an aerosol can communicating with a pressurized product." The can does not communicate with the pressurized product. Instead, the can contains the pressurized product. The can has a port 11 at its top. The cylinder 2 is secured on top of the can, and the cylinder 2 communicates with the pressurized product via port 11, i.e. pressurized product vents through port 11 into cylinder 2 when a conventional aerosol valve (not shown) in valve stem 1 lets the product vent. The product is usually a mixture of a gas propellant and some liquid such as a medicine. See examples on specification pages 17-30.

The interconnections of the other parts can best be explained by the enclosed marked-up sketches, in which the parts have been labeled with the terms used in the specification.

Hollow piston 5 is the part at top left in each figure, hatched with lines running diagonally from bottom left to top right. FIG. 2(a) has a horizontal arrow H which shows how piston 5 moves left and right (i.e. reciprocates) with respect to cylinder 2. The examiner will note that spring 8 is sometimes expanded (with gaps between its turns; FIGS. 1, 2(a) and 2(c))

and sometimes compressed (FIG. 2(b)). Piston 5 is formed with a nozzle 4, from which pressurized product can spray, as shown in FIG. 2(c). Specification page 12, line 5, calls nozzle 4 an "injection port" but all English-speaking people would call it a nozzle. This is not "new matter" by any reasonable definition. The term "within" has been changed to "with respect to" because, in the preferred embodiment shown, piston 5 actually encloses part of cylinder 2 and rides back and forth along the *outside* of cylinder 2. Clearly, other configurations could be selected.

Needle 6 is the generally cylindrical part which has spring 7 wrapped around it. Needle 6 also moves left and right. Needle 6 is formed with an annular flange or projecting "step." By comparing the horizontal positions of this step in FIGS. 2(b) and 2(c), with reference to valve stem 1, which does not move horizontally, it will be readily apparent that needle 6 moves left and right. Needle 6 has an O-ring 19 on its left tip. In FIGS. 2(a) and 2(b), the O-ring on needle 6 is engaged against the inner surface of piston 5. By contrast, in FIG. 2(c), needle 6 has moved rightward until the O-ring is not engaged, but rather has allowed an annular gap to open between the outside of needle 6 and the inner surface of piston 5, so that pressurized product is escaping from a pressure chamber and spraying out nozzle 4. Various kinds of needle valves are long-known in the valve art.

Pressure chamber 20 is a tapered annular space between the outside of needle 6 and the inside of cylinder 2. This is clearly described at page 15, lines 6-7, page 16, lines 5, 14 & 26, and page 17, line 2. This is clearly not "new matter."

There are two "spring means," namely part 7 and part 8.

Spring 8 tends to push needle 6 rightward, **away** from 5. Spring 7 tends to push parts 5 and 6 **together**, as FIG. 1 shows. Specification page 14, lines 14-25, clearly describe the important role of second spring 7 and its "spring constant" or force characteristic, which effectively determines the ratio between spraying ("injection") time and off ("stop") time in the intermittent mechanism. The "springiness" of spring 7 fights the pressure of the compressed gas. The **weaker** spring 7 is, the longer the gas can spray, before the spring 7 closes the needle valve, by pushing needle 6's O-ring 19 against piston 5. The ratio of "ON" time to "OFF" time is thus higher. Conversely, the **stronger** spring 7 is, the sooner it can overpower the gas and close the needle valve. The ratio of "ON" time to "OFF" time is thus lower. The terms "first" and "second" have been added to claim 22, for purposes of clarification. For the advantages provided by the time ratios, the Examiner is referred to the Amendment of NOV. 26, 2002, pages 5-6.

CONCLUSION

Claim 22, as amended, is directed to a novel and useful intermittent injection system, particularly adapted to applying active ingredients to human skin, which system is neither suggested or made obvious by the art of record. Claim 22 is well supported in the specification and drawings. If the Examiner needs any further evidence of this, he is invited to contact Applicants' counsel. Allowance of the claims, and passage to issue, are solicited.

No additional claims fee or extension fee is believed

required; if any is required, please charge Dep. Account 23-0442.

If the Examiner notes any remaining informalities in the application, or wishes to make any suggestions to place the application in condition for allowance, he is invited to telephone the undersigned.

Respectfully submitted,

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Attachment:
Marked-up FIGS. 1-2(c) for explanation purposes (do not enter)